

minds in motion
The Docent Educator

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“Little Ones”

Teaching and Touring Our Youngest Visitors

▲
Imagining

▲
Right from the Start

▲
Learning to Learn

▲
Botany
on a Lower Level

▲
Making Visits Meaningful

▲
Pre-Schoolers Visit
the Arctic

▲
Science, Young Children,
and the Museum Environment



Imagining: A Pathway to Learning

Whether teaching little ones is your preference or not, one can hardly dispute our responsibility as educators to these, our youngest visitors. It is aphoristic that the greater the dependency of the learner, the greater the importance of the educator. This may be one reason why classroom instructors who teach the earliest grades are often required to have more training than those who teach in high schools.

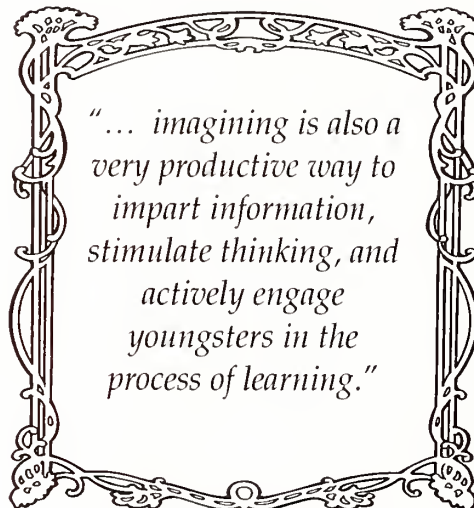
Young people are not miniature adults whose needs can be met simply by breaking down information into smaller bits and pieces. They are developing beings who learn differently from adults, and who are in the process of acquiring the skills, experiences, and attitudes that will determine the quality of their adulthood, as well as the resources they bring to it.

This issue of *The Docent Educator* is devoted to the teaching of "little ones" — children whose ages range from 3 to 9 — for it is at this early stage of human development that motivations for learning are established and lifelong impressions are created. An adult who may not remember any one specific incident that took place on a childhood visit to a museum, garden, or zoo, could probably trace his feelings about such an environment to the character of his first visit.

Anyone touring and teaching "little ones" ought to understand their cognitive traits and capabilities. For instance, they should know that these young people have yet to develop their full powers of visual discrimination and will find it difficult to isolate details. And, that the abbreviated attention spans of young children ensure that lessons which rely upon listening and observing will be less effective than those permitting activity and involvement.

In their text, *Reaching Potentials: Appropriate Curriculum and Assessment for Young Children* (1992. Washington,

DC: National Association for the Education of Young Children.), authors Sue Bredkamp and Teresa Rosegrant state that, "Young children need to think out loud; prior to age 8, children do not have fully developed 'private speech' with which to think their thoughts; they need to articulate their thoughts verbally. In early childhood classrooms, if there isn't much talking going on, there isn't much thinking going on." This offers us an additional reason why "little ones"



learn best when participating, and why the children, rather than the educator, should be doing most of the talking.

Another important attribute of early childhood, according to educational theorist Jean Piaget, is that young children actively construct knowledge through repeated dynamic experiences (*The Origins of Intelligence in Children*. 1952. New York: International Universities Press). This means that youngsters will learn best if introduced to one idea, reinforced repeatedly and in different ways, as opposed to encountering an aggregation of ideas or information. In other words, young children should be guided toward making the same discovery in several ways, or to finding that the same discovery is applicable to several things or situations.

Such cognitive characteristics and abilities of early childhood have profound implications for those who teach these visitors. They suggest that the very things that enthrall most adults about institutional collections — their potential to educate and fascinate through careful inspection; the variety of implications that can be derived, discussed, and debated; and the manner in which one's understanding and appreciation for them can be broadened by listening to the insights of experts — are more likely to confuse and stunt the interest of "little ones" than to inspire them. Thus, teaching this audience requires educators to approach collections from a vantage point entirely different from their own.

Teaching this age group successfully requires more than simply knowing what "little ones" can't do, however; it means understanding what they can, and will, do. And, one thing they can and will do is "make believe." A healthy imagination is both a common, and important attribute of early childhood. When children use their imaginations they are engaging in more than mere play. They are strengthening the mental skills required for contemplating and problem-solving as adults. The ability to imagine becomes the mental pathway for future understanding, empathizing, projecting, conjecturing, hypothesizing, and creating.

Studies have shown that children who engage in lots of imaginative activities have a larger vocabulary, greater understanding of others, and tend to be more motivated and self-reliant. Teresa Amabile, professor of psychology at Brandeis University, is quoted as saying, "[imagination] contributes to the happiness and well-being of the individual and is also an essential part of society. Without this ability, human progress would not exist."

Fortunately for educators, imagining is also a very productive way to impart information, stimulate thinking, and actively engage youngsters in the process of learning. By imagining, children can live in another country or time, gain insights into the feelings or actions of other people, and experience things that they have yet to encounter. Using the imagination to pretend or role play is among the most effective ways to enfranchise very young visitors into the world of museums, historic homes, zoos, botanical gardens, aquariums, and the like, which by their very nature are the domains of adults.

Imagining activities demand participation, addressing young children's need for personal involvement and complementing their abbreviated attention spans. Also, when movement is incorporated, imagining can harness their bursts of physical energy.

Imagining activities are easy to execute. They demand no special equipment, nor do they require changes to current exhibitions or settings. They can be undertaken in any institutional arena, regardless of subject matter. All that is needed to initiate a child's imagination are the words, "Let's pretend."

Imagining should be used for a purpose beyond pretending, however, and that purpose is to learn something about an institution's collection. To effectuate learning through imagining, such activities must be consistent with the sophistication of the audience and match their ability to participate and comprehend.

Some imagining activities that can be adapted in their complexity include:

- ◆ Pretending to pack a bag to move West or to another country. What would they choose to bring and what would they have to leave behind?

- ◆ Pretending that paintings can make sounds. What sounds would they hear? What colors would have the loudest or softest sounds?

- ◆ Pretending to live during a time without electricity. What would they do for entertainment? What chores might they have?

- ◆ Pretending to be a statue or sculpture? How would they move if they suddenly came to life?

- ◆ Pretending to work at the museum, zoo, or park. What would they want to do? What would they want to take care of?

- ◆ Pretending to be an animal. How would they move? What sounds would they make? What plants would they prefer to hide or play in?

- ◆ Pretending to sense or experience things they cannot. What smells might they notice if they were in the painting? What sounds would they hear if they slept in this bedroom? What would a surface feel like if they could touch it?

Baseball legend, Casey Stengel, is credited with saying, "The future ain't what it used to be." That statement is as true as it is humorous. Among the ironies of teaching is that one can never know which facts and information young people will actually need for their individual lives or for living in a rapidly changing world. The best that educators can hope for is to impart skills and attitudes that allow young people to remain mentally flexible and that provide them with a broad base for continued learning so that future challenges and interests can be met resourcefully. These attributes are inextricably linked to many of the mental activities learned early in life through imagining.

To accomplish imagining activities with young children, a docent must call upon a bit of his or her own childhood, and leave a measure of adulthood behind. This isn't as difficult as it sounds. In fact, it may only be challenging the first time. Once one experiences the delight and the energy "little ones" put into imagining and pretending, an adult is usually able to suspend judgments about his or her own behavior and focus on the children's. And, after all, should any of us ever be too old to play or to tap into the riches of our imaginations?

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Cover: A young visitor follows up a lesson on protective coloration with some first-hand exploration at the Wyoming Children's Museum and Nature Center in Laramie, WY.

Peek and Do!

Making Museum Visits Meaningful for the Youngest

How can I get and keep their attention on the exhibits?" and "How can I make this meaningful?" are questions that confront docents, teachers, and parents as they participate in museum visits with young children. Good answers to these two questions mean you won't find yourself asking "How can I control them?" and "Should children this age even be here?"

Orientation and follow-up are the keys to success, along with careful watching and listening for cues from the children as you go along.

The Orientation

An orientation need not be long to be effective, but it should include several components. **First, establish the groundrules, positively.** These will vary from museum to museum (and sometimes from exhibit to exhibit). In our hands-on children's museum and nature center we say:

- ◆ The things here are for you to touch, climb up into, crawl through, and explore. Be gentle with them so you can use them again and so other people can use them.

- ◆ The floors are hard and we don't want anyone to get hurt. Please walk.

- ◆ The live animals can get scared and hurt just like you. Be kind to them. They are wild and aren't for touching.

- ◆ We are here to help you. Ask any questions and we'll try to answer them.

In many museums "hands-off" has to be the rule. Children will comply if you explain: "These beautiful dresses will get stains on them and even fall apart if we touch them. That's why they have to stay behind glass. But I have a piece of brocade for you to feel and look at up close."

Second, present the alternatives. Briefly, let children know what there is

to see or do. This will usually change somewhat over time and may vary with the age of the children. Currently we say:

- ◆ We have three rooms. In this one you can paint, draw, and use stamps and other things to create a portrait of yourself and what you like to do.

- ◆ In the room to the right you can learn about animals and the kinds of habitats in which they live. You can watch Hissy the owl; you can compare different kinds of animal bones; you can climb up into a bird's nest or crawl through a prairie dog tunnel. You will discover other things to do there, too.

- ◆ In the room to the left you can learn what it was like to be a young Arapaho Indian or Oregon Trail emigrant 150 years ago. You can go into a tepee, play Indian games, listen to stories and think about the boys and girls you see crossing the land in the covered wagons, or you can load a covered wagon, listen to stories about the long trip, and think about the Indian boys and girls you might meet at the trading post.

Giving children alternatives allows for individual differences of age, temperament, and interests. With a school group, a docent might be able to say, "I'm going to take everyone on a walk-through of two painting galleries. We'll be looking at colors to see how the different combinations make you feel (quiet, excited, gloomy, happy, etc.). Then we'll divide into two groups. If you want to look again at very new paintings, your teacher will take you back to the modern gallery. If you want to look again at the very old paintings, I'll take you there." If there is no way for the children to have choices in what they do or where they go, it is especially important that the docent create opportunities for mental choices in the activities and discussions that make up the tour.

Third, conduct a warm-up activity that introduces the children to the exhibit, concept, or thinking process on which you wish to focus.

We have as one goal wanting children to look closely at the animals in our displays to begin to learn how animals are adapted to their habitats. We might begin by bringing to our orientation area one mounted bird specimen. After talking about its beak and feet, the children can guess about where it lives and what it eats. Then we encourage them to go on a "treasure hunt" in the nature center to discover how many different kinds of beaks and feet they can find that suggest different ways of life.

A class of 1st - 3rd graders I once observed in an art museum watched the process as a teacher made a silhouette of one class member — shining a light to create a shadow, tracing the edge of the shadow, cutting it out and mounting it on contrasting paper. She also mounted the remaining "frame" on contrasting paper to show them the idea of negative space. The class set off with great enthusiasm to look at a collection of silhouettes, with the promise they would make their own at the end of the class.

The Tour

Once orientation is complete, the exploration or tour can begin. Whenever possible, build exploration in. Young children need to be active, moving, thinking, and talking — not standing or sitting and listening. **A key part of the adult's role is to listen and observe.** Whatever you may have planned to ask, tell, or show must constantly be revised based on the questions the children have, their observations, and their degree of engagement (as judged by their behavior). It's better to change the planned activity or shorten a program or tour when the interest runs out than to

hold onto a predetermined plan and have it fail as children begin to misbehave.

It is also important to be able to repeat or expand a planned activity if the children demonstrate interest. Once a group of parents and I took my class of four year olds from an inner-city public school to the art museum nearby. A traveling exhibition on "Dali's Jewels" featured a sumptuous display of Salvador Dali themes such as the melting watch done in gold and jewels and displayed against dramatic crystals. It was accompanied by a visitor-activated slide show. The sub-group of the class with whom I explored the exhibit looked at the display with curiosity and amazement, then played the slide show through three times. I was wondering what was holding their attention. Finally, one little boy, with evident relish, announced, "That elephant (on stilt legs) is *bad!*" He thoroughly enjoyed the absurdity. Later I noted that he had even picked up the word "surreal" from the tape.

Remember that each child, no matter how young, is an individual and that each one's responses, interests, and tastes may be unique. Another four year old, in a different institution, had spent so much time looking at geology museum displays and going on field trips with his geologist father that he incorporated into a typical preschool picture of "Springtime" (a child, the sun, and a rainbow) a whole underground cross section of geological strata. It was obvious that the child's individual interests had been noted and fostered by an attentive adult.

The Follow Up

The post-tour follow up may be the most essential element for making the visit meaningful. Whenever possible it should include some concrete, hands-on activity. The art class learning about silhouettes came back after a short visit to the silhouette collection. While the teacher and an assistant made silhouettes of each child, (they were too young to do this successfully themselves), pairs of children put simple objects under lights, traced outlines, cut out and mounted on

contrasting paper both the silhouette of the object and the negative space from which it had been cut. Those children will remember most what they actually did — the process. Their silhouette portraits will serve as a bridge to remind them of their observations. The experience of making them will form a base to which other experiences with silhouettes or with negative spaces will connect.

The post-tour follow up has another important function. It gives an opportunity to correct misunderstandings and to clear up confusions. When my older son was still a toddler, my husband and I took him with us (for our convenience) when we visited an art museum. One time he wandered around a corner just ahead of us, then came tearing back to me, clearly frightened. "Mommy, mommy — part lady, part lady" was all he could manage. I rounded the corner and there, on a central pedestal, was a bust of a Roman goddess. To the unprepared two year old, whose perceptions of reality are distinctly different from adults, this armless, headless apparition was truly alarming. When we went home we got out the familiar playdough. I modeled an approximation of the bust and we talked about the "part lady." I introduced the word "sculpture" and noted that sculptures could get broken and fixed and that people who make sculptures can make them of parts of things if they want. Then he rolled a ball of playdough for a head for our small statue and "fixed" the part lady. Similarly, a docent might lead a preschool, kindergarten, or primary group in using playdough as a follow-up to a visit to a sculpture gallery or a ceramic or pottery exhibit.

This summer, as I toured a gem and mineral gallery at a major science museum, I observed a situation that recalled another experience with my own son when he was a preschooler. "Come on, Mom, there's nothing here!" I overheard from a five year old boy tugging his mother past the cases of gems and minerals. His mother, annoyed, glanced at a few cases, then

walked quickly out the door. My mind leapt years into the past to a visit with my own four year old to an exhibit on stained glass at an art museum in New York. "This is boring!" was his response to the multi-colored wonders. But as I looked, we talked, and he began to look, too. "What kinds of pictures would *you* make if you had lots of bits of different colored glass?" "How would you hold them together?"

For years I kept the reminder, the follow-up, of that visit. When we got back to our apartment in the Bronx we noticed lots of different colored bits of glass from broken soda, beer, and wine bottles in the gutters. *Very carefully* we picked them up, took them indoors, and washed them. Carefully, reflectively, he glued them to a piece of shirt cardboard backing, creating his own stained glass marvel.

What did he learn from the experience? Not the names or dates of artists, or the location of masterpieces. Nothing about periods or styles. Not the technical intricacy of stained glass making. But I do think he learned to *look* and to *wonder*, and that a museum can be an interesting place. I also think he learned that beauty can be created out of improbable materials and that he himself could be a creator. At age four, that's a lot!

Cleta Booth is the founding President of the Wyoming Children's Museum and Nature Center in Laramie, WY, where she also serves as a docent. Formerly the Vice President for Programming at the Children's Museum of Richmond, VA, Ms. Booth has been an early childhood educator for 18 years. Currently, she teaches at the Wyoming Center for Teaching and Learning, the laboratory school of the College of Education at the University of Wyoming. Ms. Booth holds a B.A. in English from Rice University, an M.A.T. in English from Harvard University, American Montessori Certification, and an M.Ed. in Early Childhood Special Education from Virginia Commonwealth University.

Bowdoin's Museums Host Lots of Little Ones

In The Arctic Museum by William Logan, Mildred Jones, and Judy Higbea

Pre-schoolers who visit The Peary-MacMillan Arctic Museum for guided tours are 3-year-olds (in groups of six to eight) and 4- and 5-year-olds (in groups up to ten or twelve). All have adults chaperoning them on their half-hour visits.

The 3-year-olds' concept of the arctic usually is limited to the North Pole — the place where Santa Claus and polar bears live. They may have seen picture books of Eskimos and igloos. The limited impressions they bring are cut and dried: all Eskimos live in snow igloos all the time and polar bears are everywhere in the arctic.

The 4- and 5-year olds, however, are more curious, spontaneous, and full of imagination. They readily answer questions, try out new vocabulary words, and even welcome explanations. At times they may ask their own questions and then appear indifferent to the docent's response. They simply may be practicing the art of query.

The Peary-MacMillan Arctic Museum first opened on the campus of

Bowdoin College in 1967 to honor the arctic explorations of Rear Admiral Robert E. Peary and Rear Admiral Donald B. MacMillan. Both were Bowdoin alumni. Pre-schoolers cannot comprehend the struggles of these expeditions but do have passing interest in the huge sledge (a solidly built sled that moves on ice) that actually went to the Pole, and in the ship models. They relate to the fur parka and are intrigued with the polar bear pants like those that Eskimo men wear.

Before their visits, Fours and Fives often have heard of the polar animals, kayaks, and oomiaks. As they enter one gallery, they are impressed by a large kayak mounted high before them. This provides the perfect opportunity for each child to sit on the floor, "settle into his/her own kayak," and using imagination, become an Eskimo paddling away through ice floes. At least for a moment, this technique also harnesses their tendency to wiggle. At the same time, the docent can talk about the kayak customized to fit its owner, and explain that the skin covering is sewn by the owner's wife.

Children are awed and thrilled by the array of animals mounted high in the front gallery. A mother musk ox and her calf prompt an explanation of how calves are protected within a circle formed by adults whose heads face out. Adults butt the foe with their large, strong heads and vicious-looking curved horns. Suddenly, pre-schoolers can sprout horns, a.k.a. their hands, and simulate protecting themselves. A polar bear family, several types of seals, a huge walrus with its funny "teeth" all fascinate the young visitors. Much discussion occurs between them and the docent. A caribou will join the Museum animals soon. It is being mounted in a grazing position which will permit children to appreciate its large rack of antlers.

Later in their visit, children come to arctic birds in a case placed so low they almost feel they could hug the birds. A few species are familiar to some of the children. Our area of Maine has seasonal

arctic terns, rare sightings of snowy owls in winter, and eider ducks. This eider family group includes dissimilar-looking parents, a lovable chick, and several eggs. Puffins are popular motifs and the kittiwake looks like a familiar herring gull. Sometimes, a docent will make a face and tell of the fulmar's nasty habit of spitting fish oil. Eeee-ooooo!

Objects used by families in daily life hold pre-schoolers' attention briefly. Explanations in this section are most compelling when put into story form. Then, when time and interest permit, the group can stop at the art and sculpture alcove. Soapstone and ivory carvings of bears, people, or miniature objects are actually exhibited below the children's eye-level, providing another excuse to plop down. Nearby are the tupilaks. Older pre-schoolers really set their imaginations in motion as they ponder these grotesque carvings that traditionally dealt with negative emotions.

Basic Techniques for Youngest Audiences

UNDERSTAND developmental characteristics of the age level

BE FLEXIBLE enough to build on their curiosity

ZERO IN only on exhibits or portions of exhibits that they can see and that will grab their interest

INVOLVE them in brief discussions

USE role play to release restlessness and entice emotional rapport with the subject

INCLUDE moments for them to pause and absorb

OFFER information in story form when feasible

REMEMBER that eye-level displays become very personal for them

ENCOURAGE observation of some details

HAVE a hands-on, culminating activity

William Logan is a tour guide at the Arctic Museum. Often, he serves as the docent for pre-school groups. A former classroom teacher and school superintendent, Mr. Logan is an exuberant grandfather.

Mildred Jones, a former kindergarten teacher, brought several classes to the Arctic Museum before becoming a volunteer. Now, a museum collections aide, she participates in new-docent training relating Early Childhood tours to the viewpoint of the consumer.

Judy Higbea is an elementary teaching principal who presented a volunteers' workshop on Developmental Stages as they pertain to a museum setting. Her expertise has become an essential component of the information used by both new and experienced docents at The Peary-MacMillan Arctic Museum.

The highlight of every visit, however, always is the Touch Box which contains artifacts youngsters may handle with supervision. A variety of tactile impressions are included with the visual ones. Musk ox fur can be rubbed, wooden snow goggles like those in the case can be tried on, a miniature and delicate skin kayak can be examined, and a sealskin yo-yo can be played with. All make our young visitors reluctant to leave.

By design, a major goal we hold for these visits is met. Our youngest visitors begin to learn that museums are exciting places to visit.

In The Art Museum

by *Helen S. Dubé*

Lively and playful, friendly and curious, the young visitors step into the large, spacious rotunda as they enter the Bowdoin College Museum of Art in Brunswick, Maine. They are bundles of energy having just clambered off of the lifesize sculptured lions that flank the facade and entrance to the historic Walker Art Building, which houses the Museum of Art collection. The children are fascinated with the large space they encounter and move about the round and expansive room with little inhibition, awestruck by their new surroundings. Alexander, an active five-year-old, points overhead to a female nude allegorical figure in a wall lunette mural of *Venice*. "Look, that lady must be HOT! She's standing outside naked," he exclaims. So begins another Bowdoin museum visit with our youngest audience, the pre-schoolers.

Bowdoin art museum docent Rene Rogers is a devoted fan of these young visitors. She describes our 3-to-5-year-old guests as follows: "Their behavior is usually very good. They are eager and generally very happy about everything. The children love to be told things but they have yet to develop any intellectual inquiry. They believe anything you tell them. They are totally innocent."

Pre-school visitors generally have few inhibitions. They move with relaxed ease around our large galleries. The rotunda becomes a space full of geometric shapes and sizes. Walking the outline of the curvilinear forms on the rotunda floor turns into a game of follow-the-leader. Twirling around the open rotunda area gives them the opportunity to "feel" the space they encounter. Indeed, *touching* the textured floor surface satisfies their sensory perceptions. They marvel at the enormous size of the museum setting. Physical activity is a mainstay of their lives.

As they enter the gallery of colonial and federal American portraits, Rene gives them each a colored pipe cleaner. Assisted by several parents and chaperones, the children tie the pipe cleaner around their wrists. Rene asks the children, "whose color pipe cleaner is in this picture?" as she gestures toward one of the paintings. The children, eager to participate, raise their arms declaring with great spontaneity, "I've got blue! Look, I found red in his coat," and so forth. This exercise involves children in looking for basic colors they already know through exploration of new images.

Role playing in an art museum is another very effective tour activity with pre-schoolers. Capitalizing on their physical energy and vivid imagination, Rene has the children pretend they are one of the sitters in the portraits. Rene asks the children to assume the position of the person in the portrait. "How do you feel about yourself?" she asks them.

A painting by John Sloan, *Sunday Afternoon in Union Square*, includes men and women walking and sitting in a park in spring or summer. Pre-schoolers also enjoy posing as the people in this composition using the hats from our touch baskets. Docents also participate in re-creating this scene by being the leaders of the promenade around the gallery. They encourage everyone to pretend that they smell the flowers in the garden.

Describing how she approaches her pre-school guests, Rene explains that "as a docent, you must demonstrate your

enthusiasm for the objects to the children. Use your body to describe things. Gesture! I believe in body language and acting out, whether it's just making noises or using drama. Tap into what they know, like colors, shapes, and sizes. Only discuss things that they can see in the gallery, and don't use a five-syllable word when a one-syllable word might do."

Bowdoin docents approach touring pre-school visitors with the following goals in mind:

- ◆ make the visit a fun experience;
- ◆ get them to explore and want to return to the museum; and
- ◆ teach them to look at, and see, works of art through the use of simple devices like pipe cleaners, hats, or role play.

These can be ambitious objectives for this age group, but, as Rene points out, "you feel successful when you achieve them. Anything more and you spoil their enjoyment. Remember, matching colors or shapes is still teaching them to look. You can't keep them doing any one thing for too long, however. You must vary activities and the objects they examine."

All Museum of Art tour groups are asked to wear large name tags. Referring to visitors by name is especially important with 3 to 5-year old guests. They respond well to their names. And, after all, the docent wears a name tag and identifies herself in the beginning of the tour. Name tags encourage a rapport, making the museum a friendly and fun environment for our young, developing visitors.

Helen S. Dubé serves as Coordinator of Education Programs at the Bowdoin College Museum of Art. Docent Rene Rogers has delighted children of all ages since she began volunteering at the Museum of Art in 1985. Ms. Rogers has also developed an extensive hands-on program for the museum's Greek art collection for classroom use in elementary and middle schools.

Botany on a Lower Level

While our youngest visitors are not any more difficult to teach than older students and adults, they do require a different approach. The youngest visitors toured by docents at the Brooklyn Botanic Garden are at the pre-kindergarten and kindergarten levels (4 to 6-year-olds). They arrive as part of a school group or summer camp. They may have limited experience being in

structured groups. This is especially true for the youngsters who come early in the school year. They are excited to be at the garden, but may also be unsure of what they'll be doing. For little children this uncertainty can be frightening.

To alleviate the uncertainty, tell your group at the start that they'll have fun and let

them know the agenda for their visit. Then they know what to expect, and you will get fewer questions such as "What are we going to do?" Address issues that may be important to them, such as whether or not there is a bathroom break. Things we take for granted, they don't always know or understand. "Why is a greenhouse called a greenhouse?" Even such things as why we shouldn't pull up plants may need an explanation.

One extremely important point to keep in mind during the entire tour is to address the children. School groups always have teachers and parents along to supervise, but remember this experience is primarily for the students. If you are more familiar with conducting adult tours, this may be difficult at first.

Pay attention to what the children are interested in, and listen to what they say or point out to their classmates. They'll listen to you when they see that you listen to them. You'll also be in a better position to take advantage of those teachable moments! Plan your tour, but remain flexible. Let the children determine what specific things to talk about. For instance, if someone discovers a fallen leaf or fruit, talk about it. Ask your group "Why did this leaf fall off the tree?" Their answers should lead into your next discussion.

Use appropriate and correct language. Refer to plants by their correct names, but remember to make it fun. "Why do you think this plant is called a Cattail?" "What does it feel like?" "Would you have named it something else?" Keep explanations basic and simple, but avoid using baby talk or talking "down" to children. It helps to relate a difficult topic to something that is more familiar. For example, to help a child understand why certain plants won't grow with a broken stem, compare the stem to a drinking straw. When a straw is cracked or broken, water won't travel up out of the glass. Similarly, water won't travel up a broken stem.

Eye contact is very important with any group and this is especially true with young children. Practice focusing your eyes at their height. Point out things that are on their level. The leaves and flowers growing closest to their view will be easiest for them to see. If children have to constantly look upward, their necks begin to hurt. Physical discomfort can ruin even the best guided experience.

Pre-kindergartners have short attention spans. Therefore, limit discussions on any particular subject. As a conscientious docent, you'd like to give them as much information as possible at each stop, but with this age group, less is definitely more. They'll



Students are guided through an activity in the Education Greenhouse at the Brooklyn Botanic Garden.

photo: Bich-Hang Tran

remember one really interesting thing but forget most others, and the easiest way to lose their attention is to talk too long.

Keep discussions brief and focused on concrete things and examples. Avoid abstractions. For example, pollination is a difficult concept to explain to 4-year-olds. It's fun, however, to watch bees going from flower to flower. "Do you notice which flowers the bees visit? Is there any pollen on the bees' body? Touch the flower with your finger to get some pollen on your fingertip. Pretend you finger is a bee and visit another flower. Rub the pollen onto the second flower." Pollination can be an interesting topic if you let children actually experience it.

Although 4- to 6-year-olds seem to have an endless supply of energy, they actually tire quickly. An hour tour is long enough to give youngsters exposure to the garden without exhausting them completely. Plan your tour to cover a small area with a minimal amount of straight walking. While there are many individual gardens within the Brooklyn Botanic Garden, our Garden Guides select only one or two areas to cover when working with this age group. It would be physically impossible to cover the entire garden with these children.

Standing still can be just as difficult as long walks for little ones.

Kindergartners and pre-kindergartners like to squirm and move their bodies. Our Garden Guides occasionally stop and do a physical activity that is tied to the theme of their tour. For instance, when discussing how seeds germinate, students can pretend to be seeds by crouching down with their arms around their knees. One student acts as the sun and another acts as the rain. As the sun shines and the rain waters them, the "seeds" begin to grow by slowly straightening their bodies (the stem pushing through the soil), sticking their arms out (unfolding leaves), and lifting their heads up to the sky (flowering).

Another quick, easy physical activity is really a stretching exercise.



Kindergartners put the finishing touches on the milk carton baskets in which they'll place spider plants.

photo: Bich-Hang Tran

Everyone pretends to be a tree on a windy day. They are rooted to the ground (firmly stomp each foot to reinforce the concept) with outstretched branches (arms). As the wind blows, the trees can bend back and forth, but they can't walk around.

At the Brooklyn Botanic Garden, we are fortunate. While museum collections can be observed and in rare instances touched, our "living museum" can be experienced through other senses as well. Sight, touch, smell, hearing, and taste are utilized on tours to help our young visitors learn about plants and the environment. Children especially remember most what they experience through more than one sense. These children may not be able to read signs or comprehend the historic or botanical significance of our collection, but they are capable of experiencing the collection in a very personal manner.

Touching, smelling, and hearing are always encouraged. There are many ways to incorporate these senses while touring groups. Bark, leaves, and petals all have different textures. Students can smell fragrant flowers, scented leaves, and the aroma of soil. Pass objects around in a circle to ensure that everyone has an equal opportunity to touch and smell everything.

by Deborah Keane and Alisa Leung

Young children imitate, so only touch what you want them to touch as well. Take a moment to show youngsters how to gently touch a leaf so as not to hurt it. Some docents allow "collecting" from the grounds (fallen leaves, seeds, and so forth). Get the children involved in a hunt by asking them to find something to discuss. "Who can find a fallen leaf?" Or, "Who can find something smooth?" Then, discuss each object discovered and relate it to your theme.

Explore using your sense of hearing, too. Listen to natural sounds like leaves rustling, water running, or such man-made sounds as cars, airplanes, and other people. Try to create your own sounds. How many different sounds can you make using an acorn?

Taste is the one sense we may not always utilize. Some of our visiting teachers are hesitant to let their students eat things for religious or practical reasons. Do stress that while some parts of plants can taste good (for example fruits, mint leaves, sugar cane), not all plants or plant parts are edible. Some can be poisonous. Mention this even if the students are not going to taste anything.

Touring with a group of young children can be challenging, but it can also be very rewarding. Just keep in mind the characteristics and abilities of the age group. And be flexible! What works with one group may not work with another. Adapt! As with anything new, the more often you work with young children, the more comfortable and resourceful you will become.

Deborah Keane and Alisa Leung work in the Education Department of the Brooklyn Botanic Garden in Brooklyn, New York. Ms. Keane is the Senior Instructor for School Programs. Ms. Leung is the Coordinator and Instructor for the Kindergarten Program. Both have been working with children at the Brooklyn Botanic Garden for over four years.

Right from the Start

by Sr. Eileen Rice, O.P.

Right from the Start is the title of the National Association of State Boards of Education report on Early Childhood Education, and is one of those wonderful phrases that expresses multiple meanings simultaneously. (*Everybody Counts*, the title of a report on the future of mathematics education by the National Council of Teachers of Mathematics, is another such phrase.)

In the case of young children, the opportunity to design educational experiences of all kinds that impact them in their formative years (*right from the start*) and share with them our hopes for the kinds of values and attitudes that will guide them through their lives (*right from the start*) is a significant challenge. It is a challenge shared by parents in their homes, early childhood educators in preschools and primary classrooms, and, of course, docents in a wide variety of museum settings whenever the "little ones" come to visit.

Fortunately, when the specific challenge faced is that of fostering multicultural awareness and sensitivity, the field of early childhood education has had an excellent "track record" of concern and commitment. And this dedication has resulted in the publication of numerous resources as helpful to docents as they are to the early childhood educators for whom they were originally intended.

All of the experts are in agreement with what anyone who has been around young children for any period of time has learned through trial and error. And that is that experiences designed for young children must be developmentally appropriate. They must be consistent with what is known about the physical, social, and cognitive development of children at that age. Marla Shoemaker described many of these characteristics in her article, "*Watching Children Grow:*

A Guide to Childhood Development" that appeared in the Autumn 1992 issue of *The Docent Educator* (pp. 6-9).

She and others agree that, to be successful, experiences for young children must:

- ◆ be concrete and specific
- ◆ provide opportunities for activity
- ◆ accept that children at this stage have short attention spans, little impulse control, and inaccurate notions of time and space
- ◆ be connected to the child's own reality.

These guidelines are important whenever young children visit a museum, historical site, zoo, or botanical garden. When we add to these guidelines concern for multicultural awareness and sensitivity, two additional challenges result. The first involves the docents' own attitudes toward differences among and between cultures and how these differences are exemplified in behavior, language, interests, and so forth. The second has to do with the content of a museum (zoo, botanical garden, or historical site) visit. With the latter the challenge is to plan an experience that is culturally affirming rather than one that is unintentionally culturally assaultive.

Both of these challenges require that docents have a sense of culture as an idea rather than externals like costumes, celebrations, and communal activities. Carol Brunson Phillips says it well:

Culture is more than a collection of artifacts and holidays. It is in its broadest sense a set of rules for behavior by which we organize and give meaning to the world.

The 'enculturation' process involves all the things that families do to enable their children to know and understand their group's shared ideas, values, beliefs, and behaviors.

This participation in an idea system gives a child the power to influence his or her environment and to have an impact on the world.

It is important to note that this definition doesn't limit culture to one's racial or ethnic group membership but includes gender, religion, socio-economic class, etc. All of those aspects of culture remind us that the term "multicultural" is broader than the term "multiethnic."

What's also critical about this definition is its applicability to both the challenges mentioned previously, the multicultural *dynamics* of visits/tours and the multicultural *content* of visits/tours.

When considering the multicultural dynamics of a group of young children visiting an institution, docents must first look inwards to examine their own attitudes. Young children, because the words they use are often more limited than the concepts they can understand, learn more powerful lessons from the attitudes of the docents (and their behaviors that reflect these attitudes) than they do from the specific materials considered during a visit.

What this means very practically is that docents need to reflect upon whether they associate certain kinds of behavior with children from particular socio-economic classes; whether they have unarticulated assumptions about what would interest a little boy or a little girl; whether they find themselves making judgments when children use non-standard English; whether they find themselves tensing up a bit when they learn that a group of children from a particular neighborhood, summer program, daycare center, or elementary school will be "their group" to guide for a visit or tour.

This kind of self-examination is often difficult, sometimes embarrassing, and always revealing. However a

willingness to engage in such reflection is the first step toward multicultural awareness and sensitivity at the level that young children understand it best — through how they are treated. Young children are very sensitive to the non-verbal messages conveyed by adults. They identify (and respond to) adult frustration, anxiety, and tension even when they don't have language to describe what they are experiencing.

While personal reflection is an important first step, it is only a first step. What must follow requires, in many cases, even more courage. Docents must be willing to engage in honest and thoughtful conversation about what they have learned about themselves. Initially these discussions can be with other docents, but they can't end there because docents as a group often don't represent a great deal of cultural diversity.

As a speaker at numerous national and regional museum symposia, I have found my audiences to be overwhelmingly female, white (or European-American, as my African-American students like to say), economically secure, and well-educated. This is not a judgment, but a fact, and a reasonable one given the history of docent programs, the time commitment required to be a docent, the composition of traditional museum audiences (which might lead one to an interest in becoming a docent), etc. However, no matter how reasonable this fact is, it is not one without consequences when efforts are made at multicultural awareness and sensitivity. What this implies is that docents must be willing to engage in conversations with those whose experiences have been different from their own — different socially, different racially, different economically, different educationally, and so on. The purpose of these discussions is to learn firsthand about cultural diversity and to experience

personally that differences in culture (culture, according to Carol Brunson Phillips's definition) can lead one to make very different decisions about the nature of the world and one's place in it.

Even this isn't enough however! The necessary third step in attending to



Because young children learn more from attitudes than they do from specific materials considered during their visit, docents should examine their assumptions and behaviors.

multicultural dynamics in planning experiences for young children is docent peer observation. This process requires docents to invite a colleague to shadow them on tours for the explicit purpose of observing how diversity is respected and encouraged. While there is almost always something at least a bit intimidating about being observed by a peer, and there is the danger that the individuals being observed won't "be themselves," the benefits far outweigh the disadvantages. An external observer can often see what individuals do not perceive themselves. (Video-taping

tours is also a very powerful learning tool in this regard.)

The major portion of this article so far has been spent on the multicultural dynamics of visits to museums, zoos, botanical gardens, and historical sites because for young children these

dynamics often are the multicultural *content* of the visit. Because their sense of time is focused on the present, it is difficult for them to understand abstract concepts like culture and society. Because they have short attention spans and are physically active, it is difficult for them to just look at something. So, *what* they are coming to visit is often less important than *how* they are treated while they are visiting ... at least as far as multicultural awareness and sensitivity are concerned.

However, even given all the above, there are times when a visit to an institution may have a focus that is specifically multicultural. A collection of Native American artifacts, or a zoo tour highlighting animals used for transportation around the world, or a display of inventions and discoveries made possible by women scientists, or the Tahitian paintings of Gauguin come to mind. When opportunities for such visits or tours exist, the first question to consider is whether they are suitable for young children. If that

question is answered in the affirmative, the next question that must be addressed is how to deal with content in a "culturally affirming" manner.

This notion of cultural affirmation can perhaps be understood through a consideration of its opposite, cultural assault. A culturally assaultive environment is one in which a focus on differences, albeit well-intentioned, "hurts minorities' feelings and makes them feel left out," according to Clark, DeWolf, and Clark (p.5). In their provocative article, they provide a list of elements that characterize a culturally

assaultive classroom. I have adapted the list to museum settings.

Culturally Assaultive Practices to be Avoided

- ◆ Discussing cultures only from the perspective of the past, thus limiting a culture to a particular time and place, such as the "Indians" at the first Thanksgiving

- ◆ Emphasizing differences rather than similarities between groups, for example, a focus on exotic foods, clothing, housing, etc., rather than the fact that all human beings need food, clothing, and shelter

- ◆ Using language that objectifies a group ("sit like Indians") or symbols that emphasize group characteristics and ignore differences within groups (i.e. - sombreros, rickshaws, etc.)

- ◆ Planning exhibits that focus on ethnic minorities and other groups only during certain times of the year (Black History Month, Hispanic Heritage Month, Women's History Month, etc.) rather than infusing exhibits with cultural diversity throughout the year.

In considering these practices to be avoided, it's important to remember that when such practices are incorporated into tours or visits, it's not because of a desire to misrepresent or embarrass members of various cultures. Rather, it is simply the result of a lack of awareness of how such practices are culturally insensitive. (But here, as in every other significant aspect of life, ignorance is no excuse.)

In the past, many of these practices have characterized educational experiences with young children because their (the children's) lack of sophistication makes it very tempting to simplify concepts in ways that ultimately do more harm than good.

To turn these well-intentioned but culturally assaultive practices into culturally affirming activities, docents need to find ways to infuse attention to cultural diversity in every visit a young child makes.

Possibilities include:

- ◆ Encouraging children to find connections between the content of the visit and their own lives, for example, discussing the daily activities of children in historical or ethnographic exhibitions or noticing families, pets, friends, etc. depicted in works of art

- ◆ Focusing on the processes that undergird the exhibition rather than the products; for example, what it's like to explore someplace new or what's hard and what's easy about making something

- ◆ Asking children to imagine how interesting their lives would be if various aspects of diversity were present, for example, if they had to care for a particular zoo animal or if they had a particular plant in their backyard

- ◆ Emphasizing on tours questions that have multiple "right" answers (rather than those with only one correct response), for example, "How many ways could you show someone you were happy?" or "What name would you give this plant, animal, tool, art work, etc.?"

- ◆ Addressing the issue of differences directly when dealing with content that is strikingly different from the children's own lives, for example, listing similarities and differences between and among the specific children on a particular visit or discussing with

children times that they like to do the same thing as everyone else and times that they would rather do something different.

These suggestions are only a beginning, only a start, for docents concerned about fostering multicultural awareness and sensitivity among young children. However, such a start must be made if their visits to zoos, museums, historical sites, and botanical gardens are to be "right from the start."

Sister Eileen Rice, O.P., is a college instructor and Director of Teacher Education at Siena Heights College in Adrian, MI. Formerly a secondary school principal and junior high and elementary classroom teacher, Sr. Eileen Rice was named the Phi Delta Kappa Professional Educator of the Year in 1987. She earned a Bachelor of Science in Mathematics from Siena Heights College, a Master's in Mathematics Education from the University of Michigan, and a Ph.D. in Education Administration from the University of Michigan. Sister Eileen Rice has been a presenter at numerous workshops for educators, parents, and students, and authored an article entitled, "The Impact of Learning Styles," which appeared in the Autumn 1992 issue of The Docent Educator.

Books on Multicultural Sensitivity

Two very practical and powerful books on the topic multicultural sensitivity are: *Teaching and Learning in a Diverse World: Multicultural Education for Young Children* by Patricia Ramsey (New York: Teachers College Press, 1987) and *Anti-bias Curriculum: Tools for Empowering Young Children* by Louise Derman-Sparks (Washington, DC: National Association for the Education of Young Children, 1989).

There have also been numerous articles written on this topic in *Young Children*, the publication of the National Association for the Education of Young Children.

Three helpful resources used for this article were:

Nurturing Diversity for Today's Children and Tomorrow's Leaders,

by Carol Brunson Phillips (January 1988, pp. 42-47),

Meeting the Challenge of Diversity, by Jones and Derman-Sparks (January 1992, pp. 12-18),

and

Teaching Teachers to Avoid Having Culturally Assaultive Classrooms

by Clark, DeWolf, and Clark (July 1992, pp. 4-9).

Teaching Tips

In their brochure *Sharing Science with Children: A Survival Guide for Scientists and Engineers*, the North Carolina Museum of Life and Science in Durham, N.C., offers the following noteworthy tips for those who teach youngsters.

- ◆ Make eye contact with the students because they love the personal contact.
- ◆ Smile and feel comfortable telling amusing anecdotes because kids love a good laugh.
- ◆ Organize all your materials in advance because kids sometimes have a hard time waiting.
- ◆ Use student volunteers to help you set up and distribute materials, samples, pictures, and handouts because kids love to feel important.
- ◆ Require that students raise their hands to participate because they will probably want to talk all at once.
- ◆ Call on many different members of the class because everyone wants to be involved.
- ◆ Model good safety practices because kids learn by following role models.
- ◆ Give specific directions when distributing specimens because kids sometimes disagree about who has been holding an object longest.
- ◆ Use a prearranged signal to get students' attention during activities (clapping, flipping light switch, etc.) because it is too hard to give good directions unless students are quiet.
- ◆ Stop and wait for students to let you continue speaking if they get noisy because they have probably heard the "cold silence" before and know that it means they need to be less noisy.
- ◆ Wait to give out handouts to students until it is time to read or use them because if the students have the handouts while you are speaking they will be distracted.
- ◆ Wait several seconds before calling on students to answer a question because the whole class needs time to think about the question before someone answers it.
- ◆ Enjoy the students, their enthusiasm, and their sense of wonder because they have a fascinating perspective on the world!

No More Docents?!

The August 2, 1993 issue of *Business Week* magazine included an article entitled, *A Museum Guide that Follows Your Lead*. The article described a new product called Audiomate, a small portable device that resembles a handheld telephone. The device stores up to four hours of audio-based information that can be randomly accessed.

When visitors come across something they want to know more about, they simply enter a three-digit code designated for that object and the Audiomate retrieves and plays the pre-recorded information. The Louvre, in Paris, is the first museum to offer Audiomate. They made it available for the opening of the new Richelieu Wing this past November.

Help is All Around Us

Ever notice how *other people's* errors are glaringly apparent, and the words *others* should have used are easy to discern?

These may be the best reasons why docents, guides, and interpreters ought to invite a peer or staff member to observe their tours and attend their lessons. The invited educator usually has just enough distance from the lesson or activity to make useful observations. The only caveat is that they offer these observations back in the form of "constructive criticism."

Nobody likes to be criticized. Constructive criticism, however, should not be criticism for the sake of criticizing. Whether in the form of peer feedback or formal evaluations, constructive criticism should provide suggested routes toward more effective behaviors or strategies for similar situations. Constructive criticism does not focus on what went wrong, but offers practical suggestions to help make the next encounter even better and the docent's performance even stronger.

Your Support is Needed

The Docent Educator is the only journal published expressly for volunteer and staff educators serving in a wide variety of institutional settings. It is a resource devoted to making educational efforts more successful and rewarding.

Let us know what you think. Send us your comments, suggestions, and ideas. And, please encourage your colleagues to subscribe. Help us ensure that museum docents and educators will have a voice and advocate in the years to come!

It Works for Me ...

Sharing successful techniques and ideas.

For nearly 30 years, the Houston Museum of Natural Science has collaborated with the Junior League of Houston, Inc. in a science box outreach program for children with special needs — children for whom it would be difficult to come to the Museum on a field trip. The Junior League provides the funding and the volunteers to serve as docents, and the Museum supplies the artifacts, specimens, and training for this highly successful program.

The outreach program is accomplished using 17 science boxes. Each explores a different topic, such as Reptiles and Amphibians, Mammals, Fish, Birds, Native Americans, Astronomy, and the Human Body. Large-sized fishing tackle boxes work best because their little shelves and compartments accommodate objects of various sizes and shapes.

Each docent is assigned to one school, where she teaches one or two groups of children. She presents all 17 topics throughout the school year during 1.5 to 2 hour visits to her assigned school, twice a month. Repeated visits allow the docent to get acquainted and bond with her group.

This extraordinary program works well primarily because of the skill and dedication of the volunteers who staff it. For example, when teaching students whose ages were 9 to 13 (but whose learning level was between 1st and 2nd grades), docent Susan Doherty used a book with large, colorful drawings and photographs to instantly captured their attention. She kept the children focused by never taking more than two specimens out of her box at a time, and by putting each object out of sight after that discussion ended. Throughout her lesson, Susan engaged the audience by asking questions and acknowledging every answer. Glowing, attentive faces revealed how impressed the students were with her presentation.

Like many docents, Susan gives something very special to this outreach effort ... her time, her enthusiasm, and most of all, herself. Countless children throughout the past 30 years have benefited from people like Susan, who care enough to participate in this program.

We, at Houston Museum of Natural Science, invite others to use our outreach program as a model for their own adaptations. We would be delighted to share our information and experience. Just write or call:

Coordinator of Volunteer and Docent Programs
Houston Museum of Natural Science
One Hermann Circle Drive
Houston, TX 77030-1799
(713) 639-4643

Marilyn J. Young
Coordinator of Volunteer and Docent Programs
Houston Museum of Natural Science
Houston, TX

Share your ideas, programs, and techniques.

Let everyone know what works for you!

Submit an Article!

Publish Your Teaching Ideas and Techniques

The Docent Educator invites you to submit articles, questions, techniques, comments, and announcements for possible publication. Interested? Please consider addressing the themes of our upcoming issues.

Blockbusters: *Changing Exhibitions and Large Crowds*
Summer 1994
Submission deadline - March 1, 1994

Back-to-Schools: *Educational Trends, Student Audiences, and Teachers*
Autumn 1994
Submission deadline - June 1, 1994

Multiculturalism: *Diversity in our Audiences and Collections*
Winter 1994
Submission deadline - Sept. 1, 1994

Object Literacy: *Reading, Interpreting, and Discovering Meaning from Objects*
Spring 1995
Submission deadline - Dec. 1, 1994

Adults *Touring and Teaching Adult Audiences and Families*
Summer 1995
Submission deadline - March 1, 1995

If you have an article, technique, or activity in mind that does not conform to the themes above, you are still invited to submit it for consideration.

Send your ideas and manuscripts to:
The Docent Educator
2011 Eleventh Avenue East,
Seattle, WA 98102-4109

Feature articles average 1,500 to 2,000 words in length and are best if accompanied by black-and-white photographs that reinforce the text.

Handling the Past

by Cynthia Bedell

When youngsters handle artifacts in a historical museum, the past comes alive and becomes accessible. To turn kids on at our museum, the Tippecanoe County Historical Association (TCHA) uses an expendable collection and reproductions for its handling materials. The collection includes such items as: fossils, projectile points, stone tools, bone tools, mortar and pestle, miniature wigwam, woven baskets, pioneer tools, cooking utensils, toys and dolls, candle mold, lanterns and lamps, stereopticons and cards, thumb piano, school books, "try-on" period clothing, and laminated photographs.

Scholars use a systematic method to study artifacts. This procedure, however, can be adapted so that youngsters can learn how to read an artifact. We begin by identifying the object, then move to the story the object tells about the past. Finally, we compare the object with a modern day equivalent.

- 1- What is it?
- 2- What is it made of?
- 3- How was it made?
- 4- Who made it?
- 5- Is it well made or not?
- 6- Is it special or everyday?
- 7- Who used it?
- 8- How did they use it?
- 9- Do we have something like it today?
- 10- How is it different than what we have today?

At the TCHA we also believe that children should move around the museum and discover exhibits. Search games provide a flexible framework, encouraging children to wander and at the same time have a direction. Search games are constructed with age levels in mind. For pre- and beginning readers,

we offer pictures with a one word caption; the search games for more skilled readers involve more text and reading activities.

Equal to the power of the object is the strength of personal contact. We start visits with a welcome and



introduction that explains all the fun things that will happen at the museum. We immediately engage youngsters in activities. Eye contact is established with all of the children by crouching, kneeling, or sitting at their level. We smile and project an informal, personal style. Young visitors are perceptive, and they reciprocate with enthusiasm.

Learning can be a socially motivated behavior. Young visitors — pre-K to second grade — are particularly verbal, curious, and openly energetic. The use of simple directions and positive reinforcement can maintain a productive learning environment. For instance, we

openly praise youngsters to reinforce good learning behaviors such as listening and following directions. Invariably, the fringe sits up and takes notice.

To stimulate discovery, we ask questions. Inquiry is a developing process requiring self control and flexibility on the part of the inquirer. Questions get children thinking and involved. Acceptance and encouragement facilitate these important cognitive developments.

Some of the questions I enjoy asking are:

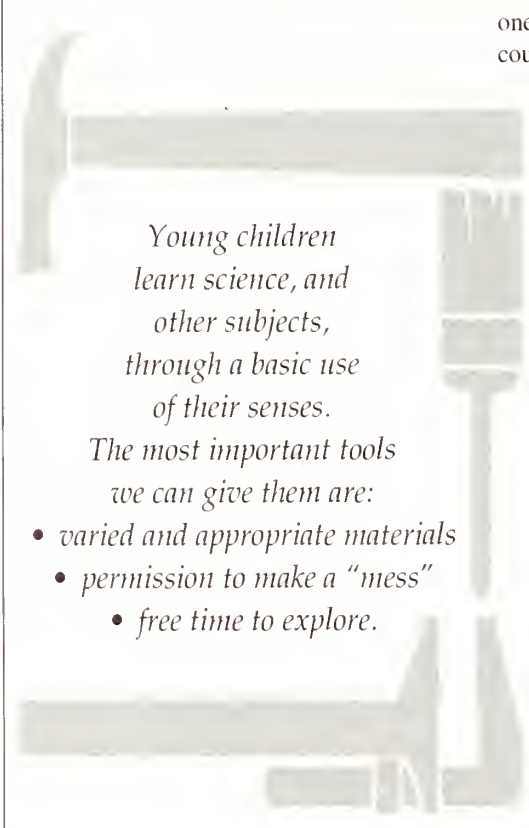
- 1- How do you know this photograph is from the past?
- 2- Can you tell me more?
- 3- What do you think?
- 4- Can you tell how the people in the picture feel?
- 5- Which is your favorite?
- 6- Do you wish you had more time?

The answer to the last question is always a resounding "yes!" Learning in a museum is exciting. It is a wonderful starting point for all kinds of journeys.

Cynthia Bedell is Assistant Curator of Education at the Tippecanoe County Historical Association in Lafayette, IN. She earned her B.A., and has graduate hours in Social Studies Education at Purdue University.

Let Them Make a Mess!

Science, Young Children, and the Museum Environment



It's opening day of a new, costly exhibition on natural disasters. Adults meander through the displays, reading copy, pushing buttons, discussing information with their companions, and drawing conclusions about what they've seen. In one corner of the exhibition, however, a couple struggles with their four-year-old daughter. She has discovered a small, re-created tide pool that is a part of the exhibition on hurricanes. The little girl doesn't want to leave. Naturally, she isn't reading copy or studying the graph of water patterns; she's just putting her hands in the water and lifting them out, again and again.

Each time the water flows through her fingers, she laughs. Soon, a three-year-old boy joins her, pouring the water from his hands to hers. What are parents, or museum educators, to do? These children clearly aren't interested in learning the material as presented. They aren't discussing the information or drawing important conclusions. They're just making a mess. Or are they?

Young children learn science, and other subjects, through a basic use of their senses. The most

important tools we can give them are:

- ◆ varied and appropriate materials
- ◆ permission to make a "mess"
- ◆ free time to explore.

The girl and boy enjoying the Natural Disaster Exhibition aren't using it in the way envisioned. But, the designer should be proud because, unlike many exhibits for adults, this one actually had one component of potential interest to youngsters ... water. Most exhibits designed for adults are deadly dull to children because they provide few concrete "tie-ins" to the exhibit that young minds can access. Though the tide pool wasn't meant for water play,

the children created their own activity. And, through their activity, they were making discoveries about water's properties that helped form a core of understanding about one of our world's basic elements.

Finally, after separating the little girl from the tide pool, her parents take her to the children's room, which is for newborns through seven-year-olds. The girl's face lights up. Inside she sees water play, sand play, climbing and building, an area for mixing materials like paint and shaving cream, and several small ice sculptures, melting. It could be the ideal school environment, with a few differences. There is no teacher — the children guide their own learning. There are no institutionally imposed time limits, so children won't be interrupted and can use their time as they see fit. And, children are free to construct knowledge on their own, without being told outcomes or conclusions.

What makes such a learning environment so appealing to children? And how can we, as those who teach in these environments, help facilitate this type of learning? Let's look again at the three most important tools we can give young people.

1. VARIED AND APPROPRIATE MATERIALS

Children from the ages of six months to seven years require very different learning situations and materials than do older children. The best activities and materials invite children to be involved, but do not require reading or abstract thinking.

For example, at the Oregon Museum of Science and Industry, children can build cars and send them rolling down a ramp. The parts of the car available are six different types of wheels, three sizes of bodies, two sizes of axles, and two different kinds of cargo boxes that can be attached to the cars. Cargo, in the form

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- *free time to explore.*

of wooden blocks, is also available, so children can load up the boxes on their cars and see how the cars' movement changes with the load. The only graphics for this activity are labels on each container of objects, reading "small wheels," "large axles," and so on, and two small signs that say "MOVE IT!"

Children of all ages play with this activity. Toddlers slide themselves down the ramp, experimenting with an early interest in motion as it relates to their own bodies. Older children exercise skills in sorting, problem-solving, predicting, comparing, teamwork, and more.

2. PERMISSION TO MAKE A MESS

Look again at our example called "MOVE IT!" One four-year-old boy dumped all of the small axles, small round wheels, and square wheels out on the table. Adults might assume that he will use four wheels and two axles, but he hasn't decided that. He wants to see everything the containers offer, and only then will he proceed to make a car. In fact, he never does make a car. Instead, he attaches one square wheel and one large round wheel on either side of an axle. Then, he slides it down the ramp, over and over again.

3. FREE TIME TO EXPLORE

The young boy in our example is in no particular hurry. He isn't late for anything. Story time is not about to begin. There are enough stations in the room so he doesn't need to finish what he's doing so another child can play. He is able to see his activity through to completion, without interruption.

Free time is very important. Children require opportunities to enter into activities and construct meanings at their own pace. Even well-meaning instruction or direction can interfere with learning at this age.

Volunteers who teach in this type of situation or setting, which is sometimes found in museums and more often found in "children's museums," have an important responsibility. They need to ensure that 1, 2, and 3 happen.

What should you do if a three-year-old begins to build a castle out of the parts meant to make a car? I suggest you let her make the castle. The creativity and exploration involved will probably surprise you, and just think what she'll learn about building structures. Children will create their personal versions of activities. Allow them to finish before discussing other options or directions they might have taken.

Wait until children are completely through an activity, and leave an area, before straightening up or putting materials away. It is important to allow children to finish their exploration. Disruptions in the form of intermittent clean-up will break their concentration and may result in a loss of interest.

Hold off your desire to assist. Even seemingly helpful statements such as: "Can I put this away for you?" "These go in here, honey." "Wouldn't you like to use this one?" "Do you want to change that part so it works right?" or "What are you going to put on it next?" can be counterproductive.

Try facilitating, rather than directing, learning. Use neutral statements that do not judge a child's actions or lead the child toward a decision. Neutral statements basically state, verbally, the actions a child takes. For instance, "I see you're using the square wheels." or "You pushed your car



Young children should be presented with opportunities to explore and construct knowledge on their own. photo: Laura Lundy-Paine

down the ramp." While these kinds of comments may seem awkward at first, they become easier with practice. And, you'll be surprised to see how a child will note what you say and even respond to it, without being interrupted or distracted.

Finally, be aware of the child in yourself. When introduced to a new exhibition, look at it as a child would. Does it allow for interaction? Does it use changeable components that would be safe and attractive to youngsters? What open-ended questions could be used in connection with the exhibition to facilitate learning? Focus on concrete elements that may already be familiar to young children. Above all, don't worry too much about the mechanics of teaching. Rather, help facilitate the natural desire to explore, engage, and learn characteristic of this age group.

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Learning to Learn

Early Childhood Experiences with Process Skills

He was quite interested in his child's welfare. As a matter of fact, the young father of one of our kindergarten children had taken a day off from his job in order to come to school to discuss a trip he was planning. As he explained his desire to take his daughter out of school for six weeks, he smiled apologetically and said, "She won't miss too much, will she? After all, it's only kindergarten."

This parent's attitude about kindergarten, while misguided, is not uncommon. Many parents are not fully cognizant of the important role that pre-schools and kindergartens play in a child's development, which may explain why fewer than half a dozen states support mandatory kindergarten. Yet, it is during the first six years of life that children learn and acquire new behaviors at the fastest rate of their lives. While the brain of a newborn weighs only about one pound, a six year old's brain has acquired its full three-pound adult weight. Most of this increase in weight comes from the growth of brain cells, particularly neurons — the cells that receive, store, and transmit thoughts and memory. Current brain research indicates that a child who lives in a stimulating environment during these crucial six years will actually develop more neurons than children who are deprived of sensory stimulation.

Because the first six years are so important in a child's development, pre-schools and kindergartens are much more than frills. They play a pivotal part not only in a child's future school success, but in creating the brain's ability to learn throughout a lifetime. Examining the goals of a typical kindergarten curriculum should provide museum educators with clues as to the

complementary part their institutions can perform in this early learning process.

- **Holidays and special events.**

Among the goals for pre-school and kindergarten children is learning about the existence and variety of holidays and special events of the society in which they live. In the United States, in October, for example, many kindergarten



What may appear to be play at the petting area of the Nashville Zoo actually teaches children process skills — how to learn and respond.

children learn fire safety rules during National Fire Prevention Month. They visit the local fire station, and perhaps, they also visit a nearby history museum to see "old" fire engines and to compare the old to the new. An activity at the museum might give them the experience and excitement of participating in a bucket brigade using plastic buckets and cardboard water drops.

- **Living things.** In science, young children learn about the care, handling, feeding, and preservation of living organisms using classroom aquaria and gerbil habitats. They learn to care for their own pets, and, when they visit a zoo or nature center, they experience the thrill of seeing non-domesticated animals. A docent shows them how the zoo cares for these animals, and they see that all animals have similar needs. Later, when they learn that some clothing is made of wool, they will remember the oily softness of the sheep in the petting zoo.

- **Colors and shapes.** Pre-schools and kindergartens devote time to teaching youngsters the names of colors and of simple geometric shapes. When they visit an art museum or gallery, they see how artists use these elements to create images, tell stories, and transmit feelings. They can make their own art in response to their experience with colors or shapes, or any of the other basic elements of art.

- **Important people.** Young children are also taught about some of the important people in their community that help others. Perhaps they enjoy a classroom visit from a police officer and a nurse. They might also learn about another special group of community helpers called "volunteers." They see parents serving as volunteers and helping in their schools, and they meet with volunteer docents at a local museum or historic site.

As essential as it is for children to have experiences that transfer aspects of our shared culture, early childhood education has an even more important responsibility. Most quality kindergarten and pre-school programs provide opportunities for children to develop

process skills — those skills that enable a child to learn. The learning of process skills is heavily dependent upon a multiplicity and variety of experiences, and is an important reason why museums, historic houses, zoos, botanical gardens, and nature centers should supplement even the best of school environments. It is also why serving this audience should be considered educationally productive by the hosting institutions.

- **Social studies process skills.**

Among the major goals of a kindergarten curriculum is teaching children how to get along with each other and function in a group. This goal is part of the social studies curriculum, but it need not be confined only to visits to history museums or historic houses. This goal, and the related goal of teaching children to work together to solve problems, are vital parts of any class trip. An art museum that allows its youngest visitors to create a mural, collage, or other group project based on the theme of the visit (animals, people, colors, shapes, textures, etc.) is helping those visitors to reach this goal. The visit itself, separate from any content, involves staying in line, raising your hand, taking turns, sharing — all rules that make it possible for the group to learn.

- **Science process skills.** The process skills of the science curriculum

are also applicable to any museum. Observing, comparing, predicting, and drawing reasonable conclusions are skills as easily developed in a history museum as in a zoo, science museum, or nature center. Kindergarten children who eat the apples they dried in a re-created pioneer farm won't understand the time concepts necessary to know when such food preservation techniques were necessary. They will, however, remember the experience whenever they eat a fresh apple. They have also learned some important concepts about moisture, and they will be able to make predictions about other foods based on this experience.

- **Language arts process skills.**

Language arts skills are naturals for all museums. Learning to listen is a major focus of the kindergarten language arts curriculum. Do note, however, that *teaching children to listen is not the same as talking to children!* Museum docents can help young visitors learn to listen by asking them to recall details or story sequences, by helping them construct visual images, by role playing, and by making listening an *active* pastime.

- **Mathematical process skills.**

The math curriculum, too, can be enhanced by a visit to the museum or other such facility. As kindergarten children develop their understanding of numbers, they learn to sort, classify, and

compare objects. They make and discern patterns, and they learn to estimate. All of these process skills can be developed in a museum, whether the child is comparing the number of baby and adult animals at the zoo or finding circles in an art gallery or museum.

Process skills teach youngsters how to learn, and how to respond appropriately and effectively to a variety of situations. Simply focusing on subject matter content, without teaching process skills, does not equip children to deal with new situations, or to become independent learners. Museums (which are important conduits of culture and, as such, are vital components of a good pre-school or kindergarten program for that reason) are rich environments for teaching process skills. This is why, when kindergarten and pre-school teachers go to the considerable effort of taking their class on a museum visit, they are not looking for a way to "kill time." They are hoping to offer students yet another experience that will enable and enhance their future ability to learn.

Jackie Littleton
Associate Editor

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THE DOCENT EDUCATOR

Sensory Involvement is the Primary Connector

by Mary Ruth G. White

Your class or tour is finished and you look back wondering, "What did they take away from our time together? Will they remember any of it tomorrow? Will they recall this lesson in connection with a future experience?"

As a docent or interpreter, you studied your collection and practiced touring. You embellished your lesson, and related it to other subject areas. What more can you do?

One technique that can accentuate the impact of your lesson, especially with younger audiences, is to involve several or all of the senses — sight, hearing, taste, smell, and touch.

Let's suppose your expertise is in art. A knowledge of art-making is helpful. Surely it starts with touching and feeling: carving in rocks; molding clay in one's hands; swirling and blending pigments; caressing the textures of leather, wool, or canvas.

While this technique may seem immaterial to looking at something like a painting, it need not be. Imagine a landscape. While the colors, mood, and technique may be apparent to the highly trained viewer, they may not be to a

younger visitor. Can you help him feel the cool breeze under the trees? Does recalling the unending sound of a stream help him relate to the water depicted? Do the flowers bring to mind a particular fragrance, or garden where he touched, smelled, and listened? Now, imagine a still life. Do the foods invite you to think of their taste — the pleasure or rejection they might bring?

A guide in a nature setting can certainly use sound to his or her advantage. Often, sounds indicate the presence of things unseen — birds, animals, insects. Perhaps helping others to identify and differentiate sounds in the environment can teach them of nature's many layers.

We tend to discourage touch in some presentations. Yet, think of how forceful a learning tool it is during the earliest years of life. How meaningful physical contact is. Feeling often leads to an emotional reaction that is effective for learning and for remembering later.

We are cautious in encouraging the tasting or smelling of objects. But, with some forethought, a docent can construct an entire lesson using those sensations alone. Honing our sense of taste or smell

can help us observe, identify, and imagine. It can enliven any lesson about nature, history, or art.

It is possible that your lesson can be more forceful if you introduce sensory appeals that are seemingly unrelated to your topic. Music can describe an animal (think of *Peter and the Wolf*); smells can define a time period; sounds can discuss a place.

Remember, every experience, even sensory ones, is interpreted through one's particular, individual perspective. I once set a copper bowl of red apples on the kitchen table for my children coming home from school. The first one who passed them said, "That's beautiful!" The second, "I'm hungry!" The third said "seven," meaning one for each child coming home (he's been our mathematician ever since).

To engage someone's senses is to engage their interest. If you can contribute to that when teaching youngsters, your presentation will certainly have been a success!

Mary Ruth G. White is a retired teacher and former docent, who recently celebrated her 80th birthday. She lives in Buchanan, MI.

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